#### **PCT**

#### **NOTIFICATION OF ELECTION**

(PCT Rule 61.2)

### From the INTERNATIONAL BUREAU

To:

Assistant Commissioner for Patents United States Patent and Trademark Office Box PCT Washington, D.C.20231 ETATS-UNIS D'AMERIQUE

Date of mailing (day/month/year)

16 October 2000 (16.10.00)

International application No.
PCT/US00/02317

International filing date (day/month/year)
28 January 2000 (28.01.00)

Applicant
MEDVINSKY, Sasha et al

1.	The designated Office is hereby notified of its election made:							
	X in the demand filed with the International Preliminary Examining Authority on:							
	22 August 2000 (22.08.00)							
	in a notice effecting later election filed with the International Bureau on:							
	The election X was							
2.								
	was not							
	made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).							

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Authorized officer

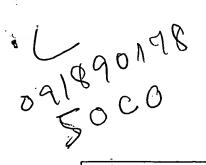
J. Leitao

Telephone No.: (41-22) 338.83.38

Facsimile No.: (41-22) 740.14.35 Form PCT/IB/331 (July 1992)

3585442

# PATENT COOPERATION TRE



### **PCT**

REC'D 2 2 JUN 2001

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

18926-34PC	FOR FURTHER ACTION		ation of Transmittal of International Examination Report (Form PCT/IPEA/416)
International application No.	International filing date (day/m	onth/year)	Priority date (day/month/year)
PCT/US00/02317	28 JANUARY 2000		29 JANUARY 1999
International Patent Classification (IPC) IPC(7): H04L 9/32; G06F 17/60 and U	or national classification and IPC US Cl.: 713/168, 175, 200, 201	i, 202	
Applicant GENERAL INSTRUMENT CORPOR	ATION		
Examining Authority and is  2. This REPORT consists of a  This report is also accombeen amended and are th	transmitted to the applicant a total of sheets.  panied by ANNEXES, i.e., she to basis for this report and/or sh	ets of the descri	iption, claims and/or drawings which have rectifications made before this Authority.
These annexes consist of a to	tion 607 of the Administrative lotal of \( \int\) sheets.	instructions unc	der the PCI).
3. This report contains indication	· · · · · · · · · · · · · · · · · · ·	ems:	
I X Basis of the repor	rt		
II Priority			
III Non-establishmen	nt of report with regard to now	velty, inventiv	e step or industrial applicability
IV Lack of unity of	invention		
V X Reasoned statement citations and explain	nt under Article 35(2) with regularizing such statem	ard to novelty, ent	inventive step or industrial applicability;
VI Certain documents	cited		
VII Certain defects in t	the international application		
VIII Certain observation	ns on the international application	on	
Date of submission of the demand	Date	of completion of	of this report
22 AUGUST 2000	1:	5 MAY 2001	
Name and mailing address of the IPEA/U Commissioner of Patents and Traderr Box PCT Washington, D.C. 20231	narks	orized officer	EE O M
Facsimile No. (703) 305-3230	Telep	hone No. (70	mea R. Matthews 13) 305-9717



#### INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US00/02317

1. B	asis of the report		
1. With	regard to the elements of the internation	nal application:*	
x	the international application as		
	the description:	gg	
X	1.0		and the allowable file.
	pages NONE		, as originally filed
	nages NONE	filed with the letter of	. Hied with the demand
	pages	. Thed with the letter of	
X	the claims:		
	pages <u>10</u>		as originally filed
		. as amended (together wil	th any statement) under Article 19
	pagesNONE		filed with the demand
	pagesNONE	_ , filed with the letter of	
_			
X	the drawings:		
	pages 1-3		, as originally filed
	pages NONE		, filed with the demand
	pages NONE	, filed with the letter of	
	the personal listing and	<b>6</b> 11	
X	the sequence listing part dageription: NONE		
	h o 2 o o 1		
	hages NONE	, filed with the letter of	
	pages	. Thed with the letter of	
2. With	the language of a translation furn	ts marked above were available or furnished the ss otherwise indicated under this item. It to this Authority in the following language ished for the purposes of international states.	search (under Rule 23.1(b)).
	the language of publication of the	international application (under Rule 4	8.3(b)).
	the language of the translation furnish or 55.3).	ed for the purposes of international prelimina	ary examination (under Rules 55.2 and/
3. With	regard to any nucleotide and/or a	nino acid sequence disclosed in the intern	national application, the international
	contained in the international ap	dication in printed form.	
	filed together with the internation	al application in computer readable for	Jn.
一	furnished subsequently to this Au	•	
Щ		thority in computer readable form.	
		ly furnished written sequence listing doe as been furnished.	
	The statement that the information in been furnished.	ecorded in computer readable form is identi	ical to the writen sequence listing has
1. X	The amendments have resulted in	the cancellation of:	
	x the description, pages	NONE	
	[₹]	NONE	0.00
	x the drawings, sheets/fig _		10.10
5.			
لــا	beyond the disclosure as filed, as inc	ne of) the amendments had not been made, s icated in the Supplemental Box (Rule 70.2(c)	).''
trt trt	icement sheets which have been furnish	ed to the receiving Office in response to an in e not annexed to this report since they do	witation under Article 14 are referred to
	·	mendments must be referred to under item	I and annexed to this report



### INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/US00/02317

D	(A) :41		
citations and explanations supporting		d to novelty, inventive step or industria nt	l applicability;
statement			
Novelty (N)	Claims	1-2	YI
	Claims	NONE	
Inventive Step (IS)	Claims	NONE	Y
michael Stop (15)	Claims	1-2	
Industrial Applicability (IA)	Claims	1-2	Y
	Claims	NONE	N
using the new certificate in data tra		ines 30-33).	
Fischer teaches a device (terminal A Therefore, it would have been obvious Fischer because they both teach a data transfer telecommunication system would increase fle	A) in a telecome ous to one of o er using a certif xibility in Aust alidity time (ex	elecommunication system. nunication system (col. 5, lines 60-65). rdinary skilled in the art to combine the teachin ficate and the Fischer's teaching of application n's data communication path (data communication) piration date in fig. 5) in a new certificate.	in
Fischer teaches a device (terminal A Therefore, it would have been obvious Fischer because they both teach a data transfet telecommunication system would increase fleton As per claim 2, Fischer teaches a very NEW CITATIONS	A) in a telecome ous to one of o er using a certification action xibility in Australidity time (ex eabstract, col.	nunication system (col. 5, lines 60-65). rdinary skilled in the art to combine the teaching cate and the Fischer's teaching of application n's data communication path (data communication date in fig. 5) in a new certificate.  7, line 51-col. 8, line 34, col. 11, lines 35-48	in tion path 34).



#### From the INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To: CHARLES J. KULAS TOWNSEND AND TOWNSEND AND CREW LLP TWO EMBARCADERO CENTER EIGHT FLOOR SAN FRANCISCO, CA 94111

#### NOTIFICATION OF TRANSMITTAL OF INTERNATIONAL PRELIMINARY **EXAMINATION REPORT**

(PCT Rule 71.1)

Date of Mailing (day/month/year)

**9** JUN2001

Applicant's or agent's file reference

18926-34PC

IMPORTANT NOTIFICATION

International application No.

International filing date (day/month/year)

Priority Date (day/month/year)

PCT/US00/02317

28 JANUARY 2000

29 JANUARY 1999

Applicant

GENERAL INSTRUMENT CORPORATION

- The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
- 2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
- 3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

#### 4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices)(Article 39(1))(see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/US

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Facsimile No. (703) 305-3230

Authorized officer

R. Matthews Telephone Ko.

Form PCT/IPEA/416 (July 1992)\*



## **PCT**

#### INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 18926-34PC		Gee Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No.	International filing date (day/month	
PCT/US00/02317	28 JANUARY 2000	29 JANUARY 1999
International Patent Classification (IPC) IPC(7): H04L 9/32; G06F 17/60 and U		202
Applicant GENERAL INSTRUMENT CORPOR	ATION	
Examining Authority and is  2. This REPORT consists of a  This report is also accombeen amended and are the (see Rule 70.16 and Sec	transmitted to the applicant according total of sheets.  panied by ANNEXES, i.e., sheets the basis for this report and/or sheet tion 607 of the Administrative Institute of the Administrative in the sheet sheet and the sheet shee	of the description, claims and/or drawings which have is containing rectifications made before this Authority.
These annexes consist of a to	· · · · · · · · · · · · · · · · · · ·	
3. This report contains indications relating to the following items:  I X Basis of the report  II Priority  III Non-establishment of report with regard to novelty, inventive step or industrial applicability Lack of unity of invention  V X Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applications and explanations supporting such statement  VI Certain documents cited  VII Certain defects in the international application  VIII Certain observations on the international application		
Date of submission of the demand	. Date of	completion of this report
22 AUGUST 2000		MAY 2001
Name and mailing address of the IPEA/ Commissioner of Patents and Trader Box PCT Washington, D.C. 20231 Facsimile No. (703) 305-3230	narks	DMAS C. LEE ne No. (703) 305-9717

Form PCT/IPEA/409 (cover sheet) (July 1998)★



International application No.

PCT/US00/02317

1.	ъа	sis of the report		
1.	With	regard to the elements of the international app	olication:*	
		the international application as origina		
	يت	the description:	,	
	X			as priginally filed
		pages NONE		filed with the demand
		pages NONE	, filed with the letter of	_ , Thed with the demand
		pages	, incd with the letter of	
ı	X	the claims:		
		pages10		, as originally filed
		pages NONE	, as amended (together with any s	statement) under Article 19
		pages <b>NONE</b>		, filed with the demand
		pages, fil	led with the letter of	
		1) 1		
	X	the drawings:		
		pages NONE	, filed with the letter of	
1		the acquence listing part of	† ho	
į	X	the sequence listing part of dagesiption: NONE		as originally filed
		Pages I		
		pages NONE	, filed with the letter of	_ , filed with the demand
		_		
2.	With	regard to the language, all the elements ma	rked above were available or furnished to this A nerwise indicated under this item. nis Authority in the following language	uthority in the language in which
	the The	international application was filed, unless oth	nerwise indicated under this item.	which is:
	1110.			
		the language of a translation furnished	d for the purposes of international search	(under Rule 23.1(b)).
		the language of publication of the inte	rnational application (under Rule 48.3(b)).	
	$\Box$	the language of the translation furnished to	r the purposes of international preliminary exam	nipation (under Rules 55.2 and/
	Ш	or 55.3).	i die parposes of international premimary exer	initiation (ander ridge solo and)
0	WELL	,		
ა.	WILE	regard to any nucleotide and/or amino	acid sequence disclosed in the international	application, the international
	Ш	contained in the international applicat	ion in printed form.	
		filed together with the international ap	pplication in computer readable form.	1 - (1)
	$\vdash$	furnished subsequently to this Authori		
	Щ	• •		
		furnished subsequently to this Authori	•	
	П	The statement that the subsequently fu	rrnished written sequence listing does not g een furnished.	go beyond the disclosure in the
	Ш	The statement that the information record been furnished	ded in computer readable form is identical to	the writen sequence listing has
4.	X	The amendments have resulted in the	cancellation of:	
		X the description, pages NON	E	
		X the claims, Nos. NON	E	
		X the drawings, sheets/fig NON	•	
5.				very house been partially at 1
U.	Ш		the amendments had not been made, since the din the Supplemental Box (Rule 70.2(c)).**	ney have been considered to go
*	Renl			under Article 14 are referred to
	in th	nis report as "originally filed" and are not	the receiving Office in response to an invitation t annexed to this report since they do not com	stain amendments (Rules 70.16
*		70.17). replacement sheet containing such amend	lments must be referred to under item 1 and o	annexed to this report



International application No. PCT/US00/02317

v.	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial	applicability;
	citations and explanations supporting such statement	

	citations and explanations supporting such statement				
1.	statement				
	Novelty (N)	Claims	1-2	YES	
	•	Claims	NONE	_ NO	
	Inventive Step (IS)	Claims	NONE	YES	
		Claims	1-2	_ NO	
			•		
	Industrial Applicability (IA)	Claims	1-2	_ YES	
		Claims	NONE	_ NO	
2.	citations and explanations (Rule 7	0.7)	<del></del>		
1	Claims 1 and 2 lack an inventive step under view of Fischer, US patent No. 4,868,877.	PCT Article 33	(3) as being obvious over Austin, US patent No. 4,935,962	! in	
	(card 30), the method comprising:	•	iding self-issuing certificates (col. 11, lines 42-44) in a devi		
1	receiving, from an external source	(card acceptor	device 32) a request to generate a new certificate, wherein	the	

the public key; and using the new certificate in data transfers (col. 8, lines 30-33).

request includes (col. 8, lines 5-6) an encrypted public key (public key e);

However, Austin does not teaches the device in a telecommunication system.

Fischer teaches a device (terminal A) in a telecommunication system (col. 5, lines 60-65).

Therefore, it would have been obvious to one of ordinary skilled in the art to combine the teachings of Austin and Fischer because they both teach a data transfer using a certificate and the Fischer's teaching of application in telecommunication system would increase flexibility in Austin's data communication path (data communication path 34).

using a secure microprocessor(microprocessor 36) to generate a new certificate(Y) that uses (col. 8, lines 11-13)

As per claim 2, Fischer teaches a validity time (expiration date in fig. 5) in a new certificate.

NEW CITATIONS
US 4,935,962 A (AUSTIN) 19 June 1990, see abstract, col. 7, line 51-col. 8, line 34, col. 11, lines 35-48
US 4,868,877 A (FISCHER) 19 September 1989, col. 5, lines 60-65, fig. 5



### WORLD INTELLECTUAL PROPERTY ORGANIZATION



#### INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 7:		(11) International Publication Number:	WO 00/45241
G06F	A2	(43) International Publication Date:	3 August 2000 (03.08.00)
(21) International Application Number: PCT/US  (22) International Filing Date: 28 January 2000 (  (30) Priority Data: 29 January 1999 (29.01.99) 60/128,772 9 April 1999 (09.04.99)  (71) Applicant (for all designated States except US): GI INSTRUMENT CORPORATION [US/US]; 101 To Drive, Horsham, PA 19044 (US).  (72) Inventors; and (75) Inventors; Applicants (for US only): MEDVINSK [US/US]; 8873 Hampe Court, San Diego, CA 921 SPRUNK, Eric, J. [US/US]; 6421 Cayenne Lane, CA 92009 (US).  (74) Agents: KULAS, Charles, J. et al.; Townsend and Tand Crew LLP, 8th floor, Two Embarcadero Ce Francisco, CA 94111 (US).	28.01.0  I  ENERA ouname  Y, Sas 129 (U: Carlsba Fownse enter, S	17 (81) Designated States: AE, AL, AM, BR, BY, CA, CH, CN, CR, CS, FI, GB, GD, GE, GH, GM, KE, KG, KP, KR, KZ, LC, LK, MD, MG, MK, MN, MW, MS, SD, SE, SG, SI, SK, SL, TJ, US, UZ, VN, YU, ZA, ZW, ALS, MW, SD, SL, SZ, TZ, UG, AZ, BY, KG, KZ, MD, RU, TBE, CH, CY, DE, DK, ES, FMC, NL, PT, SE), OAPI pater GA, GN, GW, ML, MR, NE, Published  Without international search approximately	AT, AU, AZ, BA, BB, BG, CU, CZ, DE, DK, DM, EE, I, HR, HU, ID, IL, IN, IS, JP, LE, LS, LT, LU, LV, MA, NO, NZ, PL, PT, RO, RU, TM, TR, TT, TZ, UA, UG, ARIPO patent (GH, GM, KE, ZW), Eurasian patent (AM, J, TM), European patent (AT, T, FR, GB, GR, IE, IT, LU, nt (BF, BJ, CF, CG, CI, CM, SN, TD, TG).
(64) Title: SELF-GENERATION OF CERTIFICATES U	SING	A SECURE MICROPROCESSOR IN A DEV	VICE FOR TRANSFERRING

DIGITAL INFORMATION

#### (57) Abstract

Devices in a telecommunications system are provided with means to self-generate public key pairs and certificates. This eliminates the need for such keys and certificates to be sent to the devices from an outside source so a single-trust approach can be maintained. A manufacturer's certificate is installed into a device at the time of manufacture. The device only issues itself certificates based on a signed request from an external outside server. The device's self-issued certificates incorporate information obtained from the server in a profile. This allows control by the server over a device's self-issued certificates. In order to prevent tampering, and breaking, of the self-issued certificates, the certificate issuing process occurs within a secure microprocessor.

#### FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AL	Albania	ES	Spain	LS	Lesotho	SI	Slovenia
AM	Armenia	FI	Finland	LT	Lithuania	SK	Slovakia
AT	Austria	FR	France	LU	Luxembourg	SN	Senegal
ΑU	Australia	GA	Gabon	LV	Latvia	SZ	Swaziland
AZ	Azerbaijan	GB	United Kingdom	MC	Monaco	TD	Chad
BA	Bosnia and Herzegovina	GE	Georgia	MD	Republic of Moldova	TG	Togo
BB	Barbados	GH	Ghana	MG	Madagascar	TJ	Tajikistan
BE	Belgium	GN	Guinea	MK	The former Yugoslav	TM	Turkmenistan
BF	Burkina Faso	GR	Greece		Republic of Macedonia	TR	Turkey
BG	Bulgaria	HU	Hungary	ML	Mali	TT	Trinidad and Tobago
BJ	Benin	ΙE	Ireland ·	MN	Mongolia	UA	Ukraine
BR	Brazil	IL	Israel	MR	Mauritania	UG	Uganda
BY	Belarus	IS	Iceland	MW	Malawi	US	United States of America
CA	Canada	IT	Italy	MX	Mexico	UZ	Uzbekistan
CF	Central African Republic	JP	Japan	NE	Niger	VN	Viet Nam
CG	Congo	KE	Kenya	NL	Netherlands	YU	Yugoslavia
CH	Switzerland	KG	Kyrgyzstan	NO	Norway	zw	Zimbabwe
CI	Côte d'Ivoire	KP	Democratic People's	NZ	New Zealand		
CM	Cameroon		Republic of Korea	PL	Poland		
CN	China	KR	Republic of Korea	PT	Portugal		
CU	Cuba	KZ	Kazakstan	RO	Romania		
CZ	Czech Republic	LC	Saint Lucia	RU	Russian Federation		
DE	Germany	LI	Liechtenstein	SD	Sudan		
DK	Denmark	LK	Sri Lanka	SE	Sweden		
EE	Estonia	LR	Liberia	SG	Singapore		



## (19) World Intellectual Property Organization International Bureau





### (43) International Publication Date 3 August 2000 (03.08.2000)

#### **PCT**

# (10) International Publication Number WO 00/45241 A3

(51) International Patent Classification<sup>7</sup>: G06F 17/60

H04L 9/32,

(21) International Application Number: PCT/US00/02317

(22) International Filing Date: 28 January 2000 (28.01.2000)

(25) Filing Language:

**English** 

(26) Publication Language:

English

(30) Priority Data: 60/117,788 29 January 1999 (29.01.1999) US 60/128,772 9 April 1999 (09.04.1999) US

(71) Applicant (for all designated States except US): GENERAL INSTRUMENT CORPORATION [US/US]; 101 Tounament Drive, Horsham, PA 19044 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): MEDVINSKY,

Sasha [US/US]; 8873 Hampe Court, San Diego, CA 92129 (US). SPRUNK, Eric, J. [US/US]; 6421 Cayenne Lane, Carlsbad, CA 92009 (US).

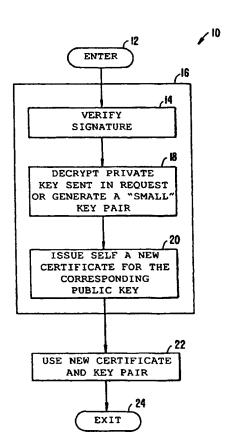
(74) Agents: KULAS, Charles, J. et al.; Townsend and Townsend and Crew LLP, 8th floor, Two Embarcadero Center, San Francisco, CA 94111 (US).

(81) Designated States (national): AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU,

[Continued on next page]

(54) Title: SELF-GENERATION OF CERTIFICATES USING A SECURE MICROPROCESSOR IN A DEVICE FOR TRANSFERRING DIGITAL INFORMATION



(57) Abstract: The present invention allows consumer communications device in the figure such as an IP telephony adapter (110) to self-generate public key pairs (224) and certificates (214). This eliminates the need for such keys and certificates to be sent to the devices from an outside source so a single-trust approach can be maintained. A manufacturer's certificate is installed into a device at the time of manufacture. The device only issues itself certificates based on a signed request from an external outside server. The device's self-issued certificates incorporate information obtained from the server in a profile. This allows control by the server over a device's self-issued certificates. In order to prevent tampering, and breaking, of the self-issued certificates, the certificate issuing process occurs within a secure microprocessor.

O 00/45241 A





MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

(88) Date of publication of the international search report: 14 December 2000

#### Published:

With international search report.

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.





#### INTERNATIONAL SEARCH REPORT

International application No. PCT/US00/02317

A. CLASSIFICATION OF SUBJECT MATTER  IPC(7) :H04L 9/32; G06F 17/60 US CL : 713/200, 201, 202; 709/303						
According to	o International Patent Classification (IPC) or to both	national classification and IPC				
B. FIEL	DS SEARCHED					
Minimum d	ocumentation searched (classification system followed	by classification symbols)				
U.S. :	713/200, 201, 202; 709/303					
Documentat	ion searched other than minimum documentation to the	extent that such documents are included in the f	ields searched			
Electronic d	lata base consulted during the international search (nat	me of data base and, where practicable, search	ch terms used)			
West sear self-issuin	rch. g certificate, generate certificate, encrypted public ke	ey, secure microprocessor, validity time.				
C. DOC	UMENTS CONSIDERED TO BE RELEVANT					
Category*	Citation of document, with indication, where ap	propriate, of the relevant passages Re	levant to claim No.			
X,P	US 5,917,912 A (GINTER et al.) 29 JV 41 and col.204 line 1 through col. 206		nd 2			
A,E	US 6,058,188 A (CHANDERSEKAR entire document.	AN et al.) 02 MAY 2000, 1-2	•			
A,E	US 6,026,491 A (HILES) 15 FEBRUA	ARY 2000, entire document.	2			
	·	1				
Purt	ner documents are listed in the continuation of Box C	See patent family annex.				
• Sp	secial categories of cited documents:	"T" later document published after the internation date and not in conflict with the application				
	be of particular relevance	the principle or theory underlying the invent	ion			
*E* ca	rlier document published on or after the international filing date	"X" document of particular relevance; the claim considered novel or cannot be considered to it				
cit	cument which may throw doubts on priority claim(s) or which is ted to establish the publication date of another citation or other	when the document is taken alone	ed invention comments			
Ĭ	special reason (as specified)  "Y"  document of part, plar relevance; the claimed invention cannot be considered to involve an inventive step when the document is					
n.	means being obvious to a person skilled in the art					
th	e priority date claimed	"&" document member of the same patent family				
07 MAY	actual completion of the international search	Date of mailing of the international search real bases of the search re	choir			
Commission	mailing address of the ISA/US oner of Patents and Trademarks	Authorized officer	o zogan			
Box PCT Washingto	on, D.C. 20231		17			
Facsimile 1	No. (703) 305-3230	Telephone No. (703) 305-9717				